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February 9, 1994

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

William F. Caton
Acting Secretary
Federal Communications Commission
Room 222
1919 M Street, N.W.
Washington, D.C. 20006

Re: GEN Docket 90-314 ET Docket 92-9

Dear Mr. Caton:

I am writing to advise you that Mark O'Connor, Sandy Abramsom, Jerome Leonard, Ron Cross, Steve Sivitz and I met on Tuesday, February 8, 1994 with Karen Brinkmann on behalf of UTAM, Inc. to discuss open issues in the above-captioned dockets as set out in UTAM's comments and replies in the pending proceeding. The following materials were left with Ms. Brinkmann after the meeting.

Very truly yours,

R. Michael Senkowski

R. Michael Senkowski

RMS/cjs

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UNLICENSED PCS

UTAM, Inc.
1776 K Street, N.W.
Washington, D.C. 20006
(202) 429-7000

UTAM, INC.

UTAM and its Responsibilities

- UTAM, Inc. has been conditionally designated by FCC as frequency coordinator for the Unlicensed PCS band.
- UTAM is responsible for managing the relocation of incumbent microwave users, and coordination of the early deployment of coordinatable PCS devices.
- UTAM is comprised of manufacturers and other parties interested coordinating the relocation of microwave users from the unlicensed band so that unlicensed devices and systems can be deployed.

UTAM Members

Alcatel Network Systems
American Personal Communications
Andrew Corporation
AT&T
Columbia Capital Corporation
Ericsson
Harris Corporation
Hitachi
LOCATE
Metrocall
Motorola
Omnipoint Corporation
North American Telecommunications Association
Northern Telecom Inc.
Pacific Bell
PCSI
Personal Communications Industry Association ("Telocator")
PTI Communications
ROLM
Sony Corporation of America
Spectralink
Utilities Telecommunications Council
Wise Communications, Inc.

Other UTAM Participants

American Association of Railroads
Apple
Columbia Spectrum
Comsearch
Digital Microwave
Hewlett-Packard
ITA
LCC, Inc.
MLJ
NABER
Rockwell International
Sprint
Tetherless Access Ltd.

UNLICENSED PCS

- **What is it?**
 - Wireless data, voice and messaging devices and systems operating at low power with high portability
 - Principally for "on-site" or campus wide service
 - User owned and operated devices, with no airtime charges
 - Examples include:
 - Wireless PBXs and key systems (in building)
 - Business adaptations of cordless phones
 - Wireless local area computer networks
 - On site roving laptops, digital assistants
 - On site paging systems
- **Size:**
 - Consumer demand growing rapidly
 - Market ultimately millions of devices worth billions of dollars
- **Benefits:**
 - Improve domestic telecommunications infrastructure
 - Enhance business productivity and quality of life
 - Maintain U.S. leadership in global telecommunications market

THE CHALLENGE IN MAKING UNLICENSED PCS A REALITY

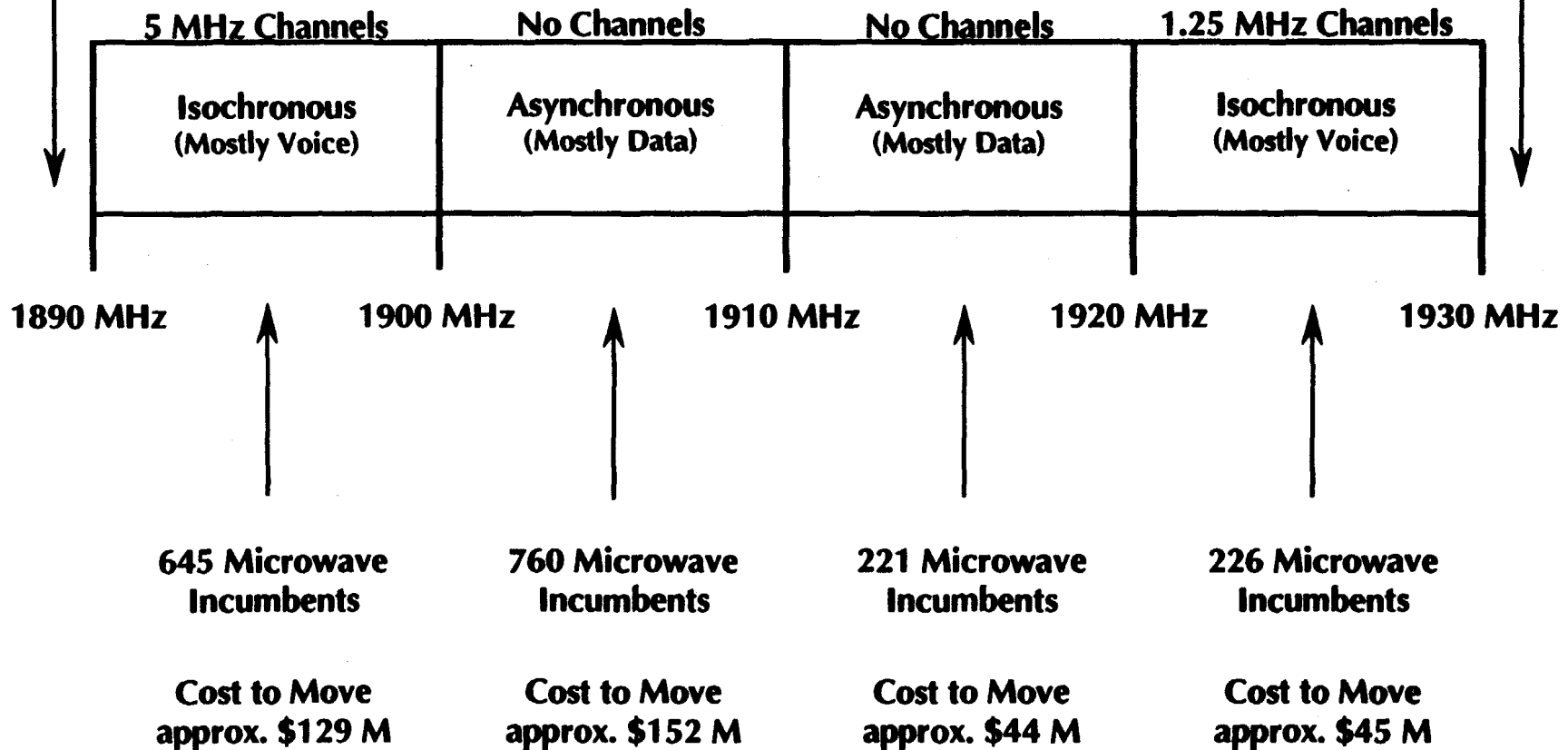
- Spectrum allocated for unlicensed PCS is currently occupied by over 1800 microwave incumbents.
- All microwave incumbents must be relocated to allow full and effective deployment of unlicensed PCS.
- Relocation costs are in excess of at \$370 million to unlicensed PCS industry.
- UTAM emerged as mechanism to insure funding and management of relocation.
- UTAM is seeking to achieve the fastest practicable and equitable clearing of band to permit nomadic or uncoordinated uses of frequencies by data and voice devices and systems.
- Coordinated devices will be deployed as interim measure to provide early product to public and help fund relocation.

UNLICENSED SPECTRUM

(40 MHZ OF 160 MHZ PCS spectrum)

Adj. Channel
765 Incumbents
93 at 1880 MHz
Cost = \$134 M

Adj. Channel
655 Incumbents
Cost = \$131 M



Total Cost: \$370 M
Total Cost with Adjacent Channels: \$635 M

1880-1889.99

1890-1899.99

1900-1909.99

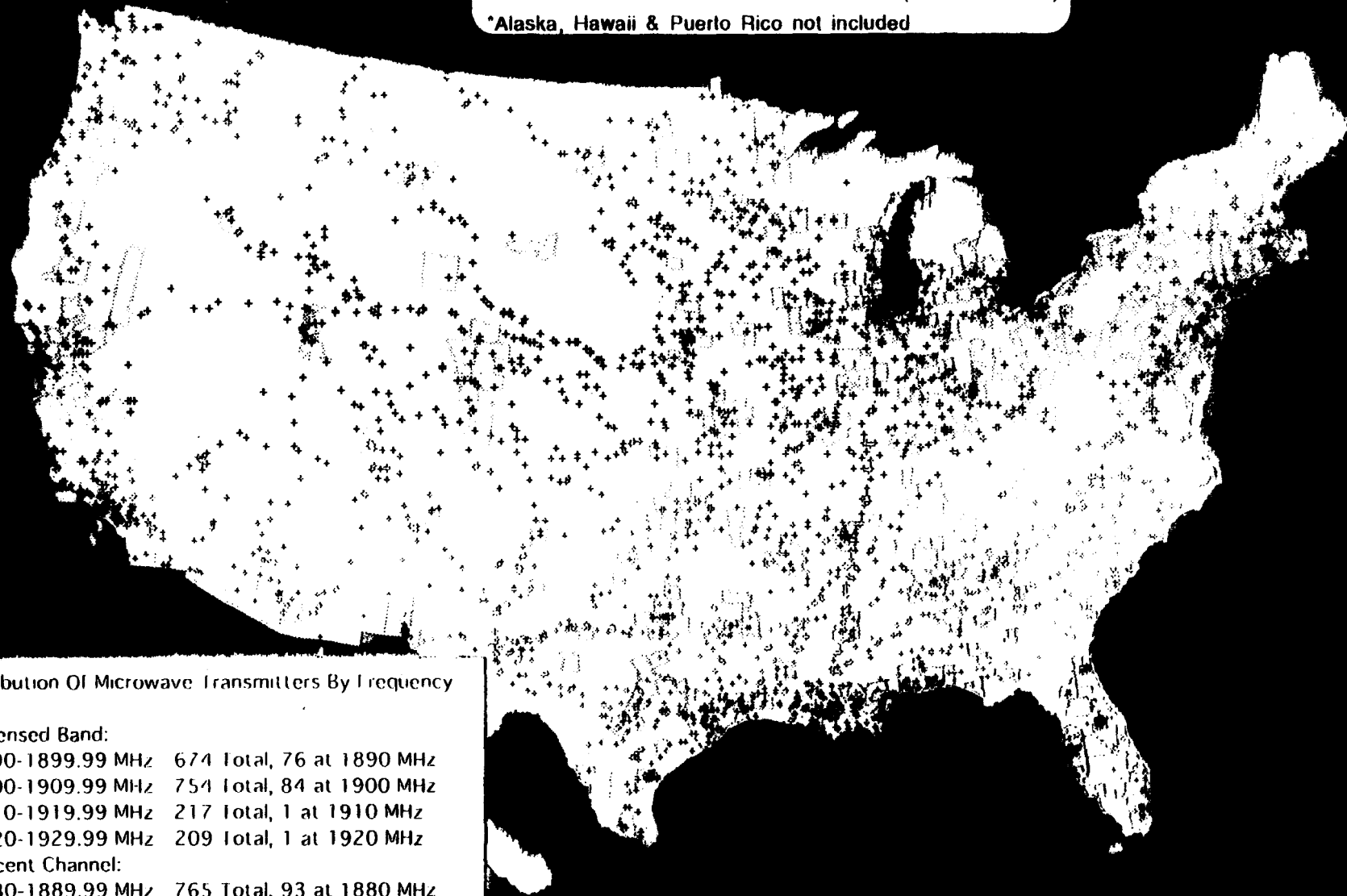
1910-1919.99

1920-1929.99

1930-1939.99

Continental* 48 States
1850-1990 Mhz Transmitters (9226 total)

*Alaska, Hawaii & Puerto Rico not included



Distribution Of Microwave Transmitters By Frequency

Unlicensed Band:

1890-1899.99 MHz 674 Total, 76 at 1890 MHz
1900-1909.99 MHz 754 Total, 84 at 1900 MHz
1910-1919.99 MHz 217 Total, 1 at 1910 MHz
1920-1929.99 MHz 209 Total, 1 at 1920 MHz

Adjacent Channel:

1880-1889.99 MHz 765 Total, 93 at 1880 MHz
1930-1939.99 MHz 655 Total, 1 at 1930 MHz and
1 at 1931.8125 MHz

NOTE: This is transmitters only and it must be assumed
an opposing transmitter exists for a duplex link.

UTAM, Inc.

SECOND REPORT AND ORDER

**GEN DOCKET NO. 90-314 (OCTOBER 22, 1993)
ESTABLISHED 2 GHz PERSONAL COMMUNICATIONS SERVICES**

Unlicensed PCS Spectrum Allocation:

- Data: 1900-1920 MHz
- Voice: 1890-1900 and 1920-1930 MHz
- Rules went into effect on 1/7/94.

UTAM Role:

- UTAM, Inc. designated as spectrum coordinator conditioned on approval of:
 - Financing plan equitable to all prospective manufacturers; and
 - "Equitable band clearing" plan permitting the implementation of nomadic devices, especially data devices, as promptly as possible.
- Will manage relocation of incumbent microwave systems consistent with the full cost compensation and comparable facilities requirements established in ET Docket No. 92-9.
- Will coordinate deployments of devices prior to band clearing.
- All applicants for equipment authorization for unlicensed PCS devices and systems must be participants in UTAM.

Coordinatable Devices:

- Early deployment permitted.
- Defined as: devices whose geographical area of operation is sufficiently controlled either by necessity of operation with the fixed infrastructure or by disabling mechanisms to allow adequate coordination of their locations relative to incumbent fixed microwave facilities.
- UTAM will coordinate location of devices before initial deployment and any subsequent relocation.
- To obtain equipment authorization, manufacturers of coordinatable devices or systems must demonstrate "procedures" that ensure:
 - The fixed portion of the device or system cannot be activated until its installation location is verified by UTAM;
 - The device must incorporate a disabling mechanism to prevent removal from the coordinated area;
 - Any moveable components of the device or system are prevented from transmitting if those parts leave the coordinated area;
 - All devices must bear a label stating: "Installation of this equipment is subject to notification and coordination with UTAM, Inc."
- No "uncoordinatable" or nomadic devices and systems in the band until the spectrum is cleared or there is little risk of interference.

UTAM PROGRESS REPORT

- **UTAM, Inc. had first organizational meeting on December 7, 1993. Officers: President—Sandy Abramson; Vice-President—Steve Sivitz; Secretary—Ron Cross; Treasurer—Jerry Leonard.**
- **The Adjacent and Co-channel Interference Committee has been holding regular meetings and has already held some tests on microwave interference.**
- **BIS has been retained to do a market survey whose information will be given to Goldman Sachs, the financial advisor, to develop the financial plan.**
- **Weekly Finance Committee meetings are being held to develop the financial plan for submission to FCC.**
- **Different organizations and companies who want to provide administrative support services to UTAM, Inc. have submitted proposals which are under consideration.**
- **An RFP for providing UTAM with a microwave incumbent user database was circulated and three best and final offers are being considered.**
- **FCC Public Notice re microwave deployments.**
- **UTAM is in the process of arranging for preparation of exclusion zone maps.**
- **Board meetings will be held March 2 and April 12 and full membership meetings are scheduled for March 3 and April 13.**

UNLICENSED PCS ISSUES ON RECONSIDERATION

GEN DOCKET NO.90-314 (PETITIONS FILED DEC. 8, 1993)

- **Deployment of Coordinatable Devices.** A number of petitioners requested reconsideration and clarification of issues relating to bandclearing and early deployment, including:
 - whether it is the responsibility of UTAM or of the FCC to determine whether a device is coordinatable; and
 - whether coordinatable devices need to incorporate an installation location verification mechanism.
- **Interference Calculation.** Many petitioners requested adoption of TIA's Bulletin TSB10-F for interference determination.
- **Channelization of the Unlicensed Device Bands.** Petitioners requested reconsideration of the decisions to:
 - split the voice band into two segments;
 - allocate both voice and data devices a portion of the lightly populated 1910-1930 MHz band;
 - limit the bandwidth of unlicensed devices; and
 - eliminate channelization in the isochronous band.
- **Power and Emissions Limits.** Petitioners requested:
 - modifications of the power and emissions limits for unlicensed devices; and
 - clarification of the procedures to be used to measure power and out-of-band emissions.
- **Channel Access Rules.** Petitioners sought reconsideration of a number of channel access issues, including:
 - deletion of or modification to the "packing rule";
 - modifications to facilitate the use of time division duplex devices into the band; and
 - alterations to the timing sequences and monitoring thresholds for seizing channels.
- **Type Acceptance Issues.** Petitioners requested clarification of the type-acceptance rules that will apply to unlicensed devices, including:
 - labelling rules; and
 - the standards for measurement and testing of unlicensed devices.
- **Other Issues.** Other issues on reconsideration include:
 - a request for a limit on radio common carrier use of the unlicensed device band;
 - clarifications regarding the use of multicarrier antennas; and
 - the level of accuracy required for specifying antenna location in FCC filings.

UNLICENSED PCS ISSUES ON RECONSIDERATION

ET DOCKET NO. 92-9

- **Expansion of the public safety exemption to include other government-related systems.**
- **Permit use of retuning for microwave relocations with consent of affected parties.**
- **Availability of tax certificates for voluntary relocations from the unlicensed spectrum.**
- **Establishment of a one-year deadline after the mandatory negotiation period for clearing unlicensed data PCS spectrum.**
- **Inclusion of federal spectrum adjacent to the 2 GHz band among the NTIA frequencies available for microwave relocation.**